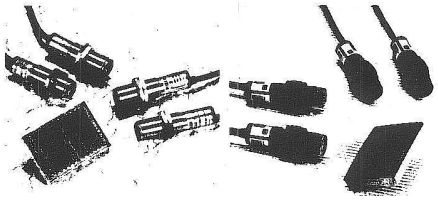
Jameco part number 161357

**PHOTOELECTRIC SWITCH**

**FEATURES:**
Diameter M18 x 1 mm
Supply voltage 12-30 Vdc
Short circuit protected
Conforming to IP66
Fast response

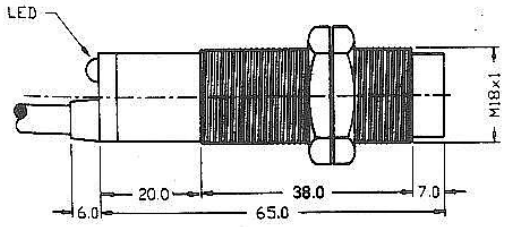


- **GENERAL SPECIFICATIONS**

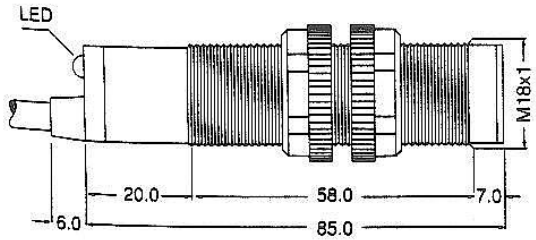
| | |
|---|---|
| Light Source | Infrared LED (940mm) |
| Detector | Photo-transistor |
| Operating Indicator | Red LED,Light when output energized |
| Sealing | Conforming to IP66 (IEC) |
| Extraneous Light Immunity | 3000 LUX 3000 |
| | Plastic Housing: ABS resin Metal Housing: Brass |
| Housing Materials | Plastic Nut: PBT Metal Nut: Brass |
| | Lens:Polycarbonate or PMMA |
| Ambient Humidity | 35-85% RH |
| Storage Temperature | -30°Cto +70°C(-22°F to 158°F) |
| Cable Length | 2m (6.5') Three Conductor Cable |
| Weight | about 120g (4.3 oz.) for plastic Housing |

■DIMENSIONS (unit in mm)

WE Series DC Type
WM Series DC Type

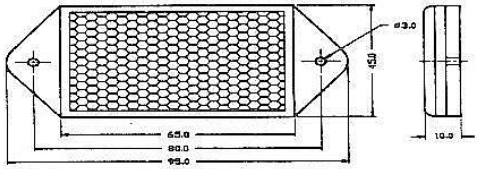



WA Series DC Type

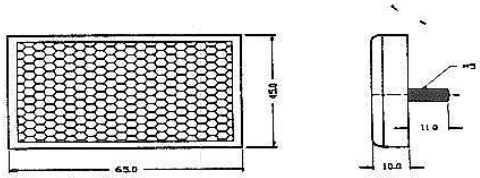



■REFLECTOR

PR-272W

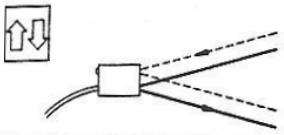
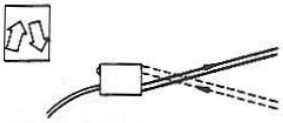
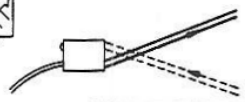


PR-272S



Jameco part number 161357

# PHOTOELECTRIC SWITCH

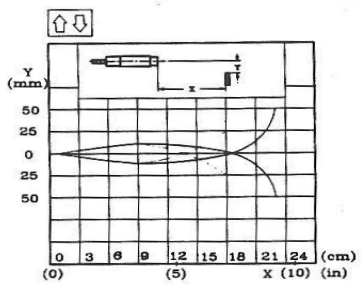
| Diffuse Reflective | Diffuse Reflective | Background Suppression |
|---|---|---|
|  |  |  |
| · transparent material detection possible<br>· easy to use<br>· fast response | · for restricted area applications<br>· max sensitivity range at 15-40 mm (*3) | · background reflections heavily suppressed<br>· max sensitivity range at 18-22 mm (*3) |
| 0-200 mm (*2) | 0-80 mm (*2) | 10-30 mm (*2) |
| see SENSING PERFORMANCE (measured curve & non-detectable region) | | |
| 20% | N/N | N/A |
| Light ON | Light ON | Light ON |
| 250 Hz<br>(2 mS) | 250 Hz<br>(2 mS) | 250 Hz<br>(2 mS) |
| 20 mS | 20 mS | 20 mS |
| 12-30 Vdc | | |
| 25 mA | 25 mA | 25 mA |
| 1. output short circuit<br>2. reverse polarity of supply voltage | | |
| 120 mA | | |
| less than 1.5 V (at load current = 120 mA) | | |
| (see WIRING DIAGRAM) | | |

| NPN | PNP | NPN | PNP | NPN | PNP |
|---|---|---|---|---|---|
| ~~161349~~<br>WE-R3AL<br>161321 | WE-R4AL | 161349<br>WE-R3BL | WE-R4BL | 161357<br>WE-U3L | WE-U4L |

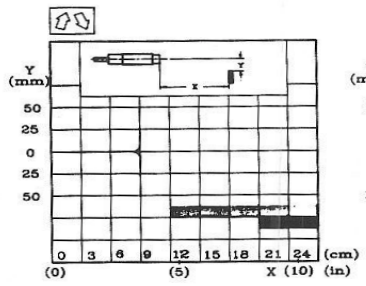
Note: •3 max. sensitivity range is measured with 50mm x 50mm black paper.
•4 WE series: DC type, plastic housing; WM series: DC type, metal housing; WA series: AC type, plastic housing.

## SENSING PERFORMANCE

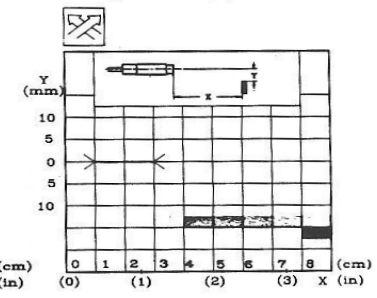
Diffuse Reflective




Diffuse Reflective

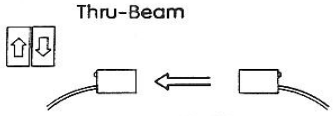
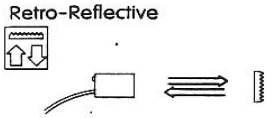



Background Suppression



Jameco part number 161357

# PHOTOELECTRIC SWITCH

| Operating Principle | Thru-Beam  | | Retro-Reflective  | |
|---|---|---|---|---|
| Feature | · long range detection<br>· small object detectable<br>· 1.2 mS response time | | · one-side wiring<br>· easy to align<br>· fast response | |
| Detecting distance | 0–5 meter | | 0–2 meter (•1) | |
| Detecting Capability | > 8mm dia. opaque | | > 10–40 mm dia. opaque (•2) | |
| Hysteresis | N/N | | N/A | |
| Mode of Operation | Dark ON | | Dark ON | |
| Max. Switching Rate (Response Time) | 400 Hz (1.2 mS) | | 250 Hz (2 mS) | |
| Power-on Reset Time | 20 mS | | 20 mS | |
| Operating Voltage | 12–30 Vdc | | | |
| Current Consumption | 20 mA (receiver)<br>25 mA (transmitter) | | 25 mA | |
| Curcuit Protection | 1. output short circuit<br>2. reverse polarity of supply voltage | | | |
| Max. Load Current | 120 mA | | | |
| Output Residue Voltage | less than 1.5 V (at load current = 120 mA) | | | |
| Output Circuit | (see WIRING DIAGRAM) | | | |
| | NPN | PNP | NPN | PNP |
| Model Item •4 | 161314 WE-T3AD | WE-T4AD | 161322 WE-M3D | WE-M4D |

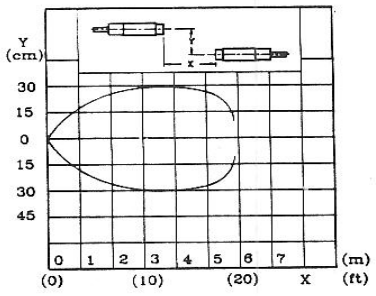
Note: •1 with reflector PR-272S or PR-272W, active area Ar = 2240 mm²
•2 refer to SENSING PERFORMANCE

## SENSING PERFORMANCE

measured curve
with 50mm x 50mm white paper
with 100mm x 100mm white paper

non-detectable region
for 200mm x 200mm white paper
with 100mm x 100mm for aluminum foil

Thru-Beam




Retro-Reflective